

5.0 OTHER REQUIRED CEQA/NEPA SECTIONS

The potential significant environmental effects associated with the proposed Shell Martinez Marine Terminal (Shell Terminal) Lease Consideration Project (Project) have been addressed in Sections 4.0 through 4.12 of this Environmental Impact Report (EIR). The Guidelines for the California Environmental Quality Act (State CEQA Guidelines)¹ states in part that an EIR shall also:

- identify and focus on the significant environmental effects of the proposed project (Guidelines § 15126.2(a));
- describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance (Guidelines § 15126.2(b));
- identify significant irreversible environmental changes which would be caused by the proposed project should it be implemented (Guidelines § 15126.2(c)); and
- identify any growth-inducing impacts of the proposed project, such as the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment (Guidelines § 15126.2(d)).

These elements are discussed in Sections 5.2 through 5.4 below. Pursuant to State CEQA Guidelines section 15126.6 (e)(2), the EIR also identifies the environmentally superior alternative in Section 5.5 (see also Section 3.3.3).

5.1 INTRODUCTION TO ADDITIONAL CEQA/NEPA REQUIREMENTS DISCUSSED IN THIS SECTION

~~As per the Pursuant to State CEQA Guidelines, S-section 15126.2(b), EIR Section 5.2, Significant Environmental Effects of Proposed Project that Cannot be Mitigated to Less than Significant, presents those significant environmental impacts that cannot be avoided in the granting of a new lease by should the California State Lands Commission (CSLC) to grant a new 30-year lease for the Shell Terminal. Those impacts would remain significant and unavoidable (Class I), even after incorporation of available and feasible mitigation measures.~~

~~Per the State CEQA Guidelines, S section 15126.2(c)}, Section 5.3, Irreversible/ Irretrievable Commitment of Resources, presents the irreversible changes related to the use of, or long-term commitment of, nonrenewable resources. Irreversible changes represent long-term environmental damages that could result from the proposed Project. Of the impacts presented in Section 5.2, Significant Environmental Effects of Proposed Project that Cannot be Mitigated to Less than Significant, even more information is needed to categorically state that the impacts of oil spills over a long enough time period are reversible. However, if a large spill would were to cause~~

¹ The State CEQA Guidelines are found in Title 14 of the California Code of Regulations (CCR), commencing with section 15000.

1 enough water quality or biological damage so as to result in the elimination of a species,
2 an irreversible impact would result.

3
4 As per the State CEQA Guidelines, § section 15126.2(d)), Section 5.4, Growth Inducing
5 Impacts of the Proposed Project, discusses the ways in which the proposed Project
6 could foster economic or population growth, or induce additional housing, either directly
7 or indirectly in the surrounding environment.

8 9 **5.2 SIGNIFICANT ENVIRONMENTAL EFFECTS OF PROPOSED PROJECT THAT** 10 **CANNOT BE MITIGATED TO LESS THAN SIGNIFICANT**

11
12 Significant environmental impacts that cannot be avoided in the granting of a new lease
13 by the CSLC ~~to~~ for the Shell Terminal are presented below. These impacts would
14 remain significant and unavoidable (Class I), even after incorporation of available and
15 feasible mitigation measures.

16
17 ➤ Large Spills at Marine Terminal during Transfer Operations. Even though the chance
18 of an oil spill is low, if an accidental spill occurs, unavoidable significant impacts can
19 result. The annual probability of a spill larger than 1,000 gallons from the Shell
20 Terminal is 1.2 percent, or one spill every 80 years. The probability of a spill greater
21 than 42,000 gallons (1,000 barrels [bbls]) during the 30-year lease period is
22 30 percent. Shell is compliant with U.S. Coast Guard (USCG) regulations for spill
23 response for responding to a small (50 bbls) spill and impacts are less than significant
24 (Class III). However the effects of a small spill may still result in a significant adverse
25 impact as identified in other ~~resources~~ sections (e.g., water quality, biological
26 resources, fisheries sections) of this ~~Draft EIR~~. The consequences of a spill would
27 depend on many factors including, but not limited to, the size of the spill, spill location,
28 type of material spilled, prevailing wind and current conditions, the effectiveness of the
29 response effort, and the biological, commercial fisheries, shoreline, and other
30 resources impacted by the spill.

31
32 ➤ Moderate spills of 1,000 gallons could have, and large spills of 1,000 bbls most likely
33 would result in a significant adverse impact (Class I) that would have residual effects
34 after first response ~~mitigation~~ containment and cleanup efforts.

35
36 ➤ Large Spills from Vessels in Transit. The potential for a spill from the Shell Terminal,
37 including the tank vessel while it is at the Terminal, was found to be much greater
38 than the potential of a spill from a tank vessel transiting within the Bay. However,
39 while the probability of a large spill from vessels in transit is small, the consequences
40 of such a spill would be a significant adverse (Class I) impact.

41
42 ➤ Spills of Group V Oils. Group V oils have a specific gravity great than 1, and will not
43 float on the water; instead they will sink below the surface into the water column or
44 possibly to the bottom. California Department of Fish and Game Office of Spill
45 Prevention and Response (OSPR) regulations stipulate that all facilities that transfer
46 Group V oil must identify equipment that can be used to monitor and/or recover

Group V oil. Shell does not address Group V oils or identify equipment that can be used to respond to Group V spills in ~~their~~ its Oil Spill Response Manual. Mitigation is provided that will require Shell to ~~updated~~ update ~~their~~ its Oil Spill Response Plan, and to monitor the research conducted to respond to Group V releases and to improve ~~their~~ its response capability as new techniques and equipment become available. Even so, it is difficult to monitor and predict the movement of Group V oils and to recover the oil while it is in the water. A Group V oil spill would be considered to be a significant adverse (Class I) impact.

- Spills from Pipelines during Non-Transfer Periods. Even though Shell has an extensive pipeline inspection program in place, should spills greater than 50 bbls occur, impacts may be significant (Class I).

- Discharge of Segregated Ballast Water and Introduction of Non-indigenous Species in Segregated Ballast Water. Invasive organisms/introduction of non-indigenous species in segregated ballast water released in the Bay could have significant (Class I) impacts to plankton, benthos, fishes, and birds. The discharge of segregated ballast water that contains harmful ~~micro~~organisms could impair several of the proposed Project area's beneficial uses, including commercial and sport fishing, estuarine, habitat, fish migration, preservation of rare and endangered species, water contact recreation, non-contact water recreation, fish spawning, and wildlife habitat. Even with adherence to the provisions in the California Marine Invasive Species ~~Control~~ Act and CSLC reporting requirements, until a feasible system to kill organisms in ballast water is developed, the discharge of ballast water to San Francisco Bay will remain a significant adverse (Class I) impact.

- Vessel Biofouling and Marine Anti-Fouling Paints. Vessel biofouling occurs when organisms attach to or associate with the hull and other wetted surfaces of a vessel. Marine anti-fouling paints are used to reduce nuisance algal and marine growth on ships. Anti-fouling paints are biocides that contain copper, sodium, zinc, and tributyltin (TBT) as the active ingredients. All of these are meant to be toxic to marine life that would settle or attach to the hulls of ships. Tankers visiting the Shell Terminal may have contributed to water contamination through use of anti-fouling paints. An international ban on TBT was implemented in 2008, and the use of TBT in anti-fouling paints has been phased out. It is possible, but unlikely given the 2008 requirements, that vessels with old applications of TBT on their hulls will visit the Shell Terminal. Because all these biocides are toxic to marine organisms, any continued use of biocides by vessels in San Francisco Bay is a significant adverse cumulative impact (Class I). However, until all old applications of TBT are gone from vessels using the Shell Terminal, impacts of organotins will remain significant (Class I). In addition, all vessels will continue to pose a risk for species introduction via vessel biofouling until effective strategies are developed to eliminate the growth of organisms on wetted surfaces of vessels. Until a feasible system to kill all organisms in ballast water is developed, the discharge of ballast water to San Francisco Bay will remain a significant adverse (Class I) impact. ~~Because of the high toxicity of organotins to marine organisms, the use of these substances on vessels associated~~

1 with the Shell Terminal is considered to be a significant adverse impact to water
2 quality that cannot be mitigated to less than significant (Class I). Until all TBT is
3 phased out by 2008, vessels with old applications of TBT on their hulls will visit the
4 Shell Terminal. Although it is reasonable for Shell to require vessels to document no
5 new TBT applications (per IMO mandate), Shell cannot feasibly require vessels to
6 remove TBT from their hulls until the IMO mandate prohibiting the presence of TBT on
7 shiphulls comes went into effect in 2008. Therefore, until all TBT is gone from vessels
8 using the Shell Terminal, impacts of organotins will remain significant (Class I).

9
10 ➤ Spill Effects on Water Quality. The severity of impact from larger leaks or spills at the
11 Shell Terminal that cannot be easily contained will depend on: (1) spill size, (2) oil
12 composition, (3) spill characteristics (instantaneous vs. prolonged discharge), (4) the
13 effect of environmental conditions on spill properties due to weathering, and (5) the
14 effectiveness of cleanup operations. In the event of an oil spill, the initial impacts will
15 be to the quality of surface waters and the water column, followed by potential
16 impacts to sedimentary and shoreline environments. Following an oil spill,
17 hydrocarbon fractions will be partitioned into different regimes and each fraction will
18 have a potential to affect on-water quality. Large spills at the Shell Terminal have the
19 potential to result in significant adverse (Class I) impacts on water quality. Also, most
20 tanker spills/accidents and larger spills that cannot be quickly contained either in the
21 Bay or along the outer coast would result in significant adverse (Class I) impacts.

22
23 ➤ Spill Effects on Biological Resources. An oil spill of 1,000 bbls or greater has the
24 potential to have significant adverse impacts on biological resources (Class I). A spill
25 between 50 and 1,000 bbls would also probably have significant biological impacts
26 that might not be avoidable (Class I). Conclusions are based on relative sensitivity of
27 the resource to oil, the vulnerability of the resource within San Francisco Bay, and
28 the relative risk from a spill at the Shell Terminal or from a Tanker servicing the Shell
29 Terminal.

30
31 ➤ Spill Effects on Commercial Fisheries. Potentially significant (Class I) impacts may
32 affect shrimp, herring fishing, herring spawning, and recreational fishing inside the
33 Bay from an oil spill. Fishing activities would be further impacted by closures of piers
34 for recreational fishing and marinas for both commercial and recreational fishing.
35 Pier and marina closures and loss or damage to fisheries and fishing gear would
36 increase the impacts on commercial fishing operations and angling activities. Along
37 the outer coast, impacts would also have the potential to result in Class I impacts
38 from a large spill event.

39
40 ➤ Spill Effects on Shoreline and Recreation Amenities. Impacts resulting from larger oil
41 releases at the Shell Terminal, in the Bay, or along the outer coast have the potential
42 to degrade the environment and preclude the use of shoreline land and/or
43 recreational activity at the site of the release and to the area extent of the spread of
44 the oiling. The degree of impact, however, is influenced by many factors including,
45 but not limited to, spill location, spill size, type of material spilled, prevailing wind and
46 current condition, the vulnerability and sensitivity of the resource, and response

capability. Since it is impossible to predict with any certainty the potential consequences of spills, impacts are considered to be adverse and significant (Class I) severe spills could have residual effects that remain after first response containment and cleanup occurs.

- Spill Effects on Visual Environment. The Shell Terminal is in an area of rapidly moving current. If a spill is not detected immediately, the spread of a larger spill over a large portion of the Carquinez Strait could occur, and potentially impact shoreline areas on both sides of the strait. Oiling would result in a negative impression of the viewshed that has the potential to result in significant adverse (Class I) impacts if residual effects after first response containment and cleanup remain. Spills along the outer coast could result in significant (Class I) impacts, especially where spills would be visible in the nearshore zone or at the shoreline and where residual effects may remain after initial cleanup operations.

5.3 IRREVERSIBLE/IRRETRIEVABLE COMMITMENT OF RESOURCES

As per State CEQA Guidelines, Section 15126(f), this section presents the irreversible changes related to the use of, or long-term commitment of, nonrenewable resources. Irreversible changes represent long-term environmental damages that could result from the proposed Project are as follows:

- Of the impacts presented in Section 5.2, Significant Environmental Effects of proposed Project that cannot be Mitigated to Less than Significant, even the impacts of oil spills over a long enough time period are reversible. However, if a large spill would cause enough biological damage so as to result in the elimination of a species, an irreversible impact would result; and
- The Shell Terminal operation indirectly acts as a stimulus for the extraction of oil reserves, adding to the eventual depletion of a non-renewable resource.

5.4 GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

The proposed Project involves a new lease for operation of the Shell Terminal. If granted, the new lease would allow Shell to continue to operate the Shell Terminal, which has operated at its current location, transferring and processing hydrocarbon fuels, lubricating oils and asphalt to the Shell Refinery, since 1915. The Shell Terminal operates on 19.26 acres of public land leased from the CSLC as a barge and tanker transfer facility for crude oil and petroleum products. The Shell Terminal is capable of operating 365-day, 24 hours a day, although actual operation depends on shipping demands. During the 30-year lease period, Shell would potentially increase annual vessel calls from its ~~current 2004-baseline~~ of 196 vessels annual average to 330 annual vessel calls (tankers and barges). Shell Terminal throughput would also potentially increase. ~~The increase in throughput would be to volumes similar to the quantity the Shell Terminal had handled in the 1980s and is allowed through their incorporated in Shell's Bay Area Air Quality Management District (BAAQMD) permit.~~ No changes to the Shell Terminal wharf are proposed, only the potential for reactivation of Berths #3 and

#4. This increase in operations is market driven to keep up with the demands within the region. These demands are considered growth accommodating and not growth inducing, and would not directly or indirectly foster economic growth, population growth, or the need for housing.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The State CEQA Guidelines section 15126.6 (e)(2) states:

The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time environmental analysis is commenced, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services. If the environmentally superior alternative is the "no project" alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." (Emphasis added.)

The determination of an environmentally superior alternative is difficult because of the many factors that must be balanced. The No Project Alternative eliminates operational impacts associated with the Shell Terminal and is thus environmentally superior; however, implementation of this alternative does not meet the Project objective of maintaining Refinery operational viability, at least for the short term, and it would potentially shift similar levels of impact to other Bay area marine oil terminals (MOTs) in order to make up the differential for crude oil and product transport throughout the Bay.

The Full Throughput Alternative is the only alternative to the proposed Project that meets the Project objective of maintaining Refinery operational viability. The Full Throughput Alternative would eliminate operations and impacts at the Shell Terminal. This alternative results in the transfer of similar Class I and II impacts of the proposed Project to other Bay area terminals. Similar impacts include operational safety/risk of accidents, water quality, biological resources, commercial and sports fisheries, land use/recreation, air quality, noise, and visual resources, structural integrity and environmental justice. Construction of pipelines between these terminals and the Shell Refinery would have the potential for Class I or II on-land spills/leaks, but with the potential for less overall severity than spills into the marine environment.

Under the Full Throughput Alternative, the capacity of other Bay Area MOTs may be taxed, potentially increasing vessel congestion, collisions, and costs while vessels wait to berth and offload/load.

The Full Throughput Alternative does not represent a greater environmental benefit than that of the proposed Project. Because the Full Throughput Alternative simply moves impacts from the Shell Terminal to the locations of other terminals, and has the added potential for on land pipeline spills, it is considered to represent a greater potential adverse environmental impact than the proposed Project. Therefore, the proposed Project is selected as the environmentally superior alternative.